Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matters of	)	
	)	
Deployment of Wireline Services Offering	)	CC Docket No. 98-147
Advanced Telecommunications Capability	)	
	)	
and	)	
	)	
Implementation of the Local Competition	)	CC Docket No. 96-98
Provisions of the Telecommunications	)	
Act of 1996	)	

COMMENTS OF CTSI, INC. AND WALLER CREEK COMMUNICATIONS INC. D/B/A PONTIO COMMUNICATIONS CORPORATION

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SUMMARY

Pursuant to the mandate of section 251(c)(6) of the Act, the Commission has authority, and the obligation, to require absolute competitive parity between ILECs and CLECs with respect to occupation and use of ILEC central offices and remote terminals. Section 251(c)(6) requires ILECs to provide for "physical collocation of equipment necessary for interconnection or access to unbundled network elements" "on rates, terms, and conditions that are just, reasonable, and nondiscriminatory." The single word "necessary" should not preclude an expansive reading of section 251(c)(6), which includes broad terms clearly intended to prevent *any* form of discrimination against CLEC collocation. Furthermore, courts have approved and employed a definition of "necessary" that supports CLEC rights, similar to ILEC rights, to collocate a full range of equipment including equipment with advanced features and functions. The specific language of section 251(c)(6) and the Congressional mandate to accelerate rapidly deployment of advanced technologies and services require that CLECs have the same rights to collocate as ILECs in terms of access, price, quantity, and use of space. Commenters urge the Commission to adopt the specific requirements recommended in these comments, which Commenters believe will achieve the mandated competitive parity between ILECs and CLECs with respect to occupation and use of ILEC central offices and remote terminals.

Comments also urge the Commission to update local competition rules in light of rapid deployment of next generation network technologies, which have caused dramatic changes to the network. Such changes directly affect the ability of CLECs to interconnection and to provide all forms of telecommunications services to consumers, including advanced services. The network elements required to properly interconnect and provide service change when the ILEC changes its infrastructure. Thus, what sufficed to interconnection and provide service over the old network, no longer suits the same purpose. As described more fully in the comments below, SBC's Project Pronto

and Richardson, Texas provide examples of the dramatic changes to network architectures and the urgent need to update the local competition rules. SBC has developed and deployed Project Pronto in a manner that enables SBC to determine the pace and scope of competition in the provision of advanced services. In Richardson, Texas, SBC has virtually foreclosed DSL competition by unilaterally removing copper loops. The rapid removal of copper causes Commenters to stress the urgent need for the Commission to mandate that copper remain available to CLECs. Furthermore, to ensure that the full benefits of new architecture and technology deployment extend to customers of CLECs and ILECs alike, the Commission should revisit its local competition rules to ensure that advanced services and capabilities are included in the definition of UNEs, to establish new UNEs, and to require complete disclosure of ILEC network capabilities.

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CTSI, Inc. ("CTSI") and Waller Creek Communications d/b/a Pontio Communications ("Pontio") (collectively "Commenters") submit these comments in response to the Commission notices of proposed rulemaking[1] in the above-captioned proceedings. CTSI and Pontio urge the Commission to reestablish the collocation rules remanded[2] from the *Collocation Order*[3] and to update

[1] *In the Matters of Deployment of Wireline Services Offering Advanced Telecommunications Capability and Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket Nos. 98-147, 96-98, Order on Reconsideration and Second Further Notice of Proposed Rulemaking in CC Docket No. 98-147, and Fifth Further Notice of Proposed Rulemaking in CC Docket No. 96-98, FCC 00-297 (August 10, 2000)("*Collocation Reconsideration Order and NPRM*").

[2] *GTE Service Corp v. FCC*, 205 F.3d 416 (D.C. Cir. 2000)("*GTE v. FCC*").

[3] *Deployment of Wireline Services Offering Advanced Telecommunications Capability*, First Report and Order and Further Notice of Proposed Rulemaking, CC Docket No. 98-147, 14 FCC Rcd 4761 (1999)("*Collocation Order*"), *aff'd in part and remanded in part sub. nom. GTE v. FCC, supra*.

the local competition rules in light of deployment of next generation network architecture by incumbent local exchange carriers ('ILECs").

I. NON-DISCRIMINATORY COLLOCATION IS NECESSARY TO REACH THE CONGRESSIONAL GOAL TO ACCELERATE RAPID DEPLOYMENT OF ADVANCED SERVICES

In the Telecommunications Act of 1996, Congress sought to "provide for a pro-competitive, de-regulatory national policy framework designed to *accelerate rapidly* private sector deployment of advanced telecommunications and information technologies and services to all Americans by opening all telecommunications markets to competition."[4] This Congressional directive is crucial to this proceeding. Accelerated deployment of advanced telecommunications and information technologies to American consumers will not occur unless the Commission adopts rules requiring non-discriminatory collocation in central offices and remote terminals. As demonstrated below, without nondiscriminatory access and interconnection to the growing and changing telecommunications infrastructure, many venturesome, innovative competitive local exchange carriers ("CLECs") will be unable to break into the market and reach consumers. Thus, Commenters urge the Commission to reestablish regulations governing collocation in ILEC central offices to ensure collocation of contemporary telecommunications equipment and to adopt similar nondiscriminatory

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[4] S. Conf. Rep. No. 104-230, at 1 (1996). *See also* Iowa Utils Bd. V. FCC, 120 f.3d 753, 791 (8th Cir. 1997) (stating that Congress passed the 1996 Act, in part, "to erode the monopolistic nature of the telephone industry by obligating [ILECs] to facilitate the entry of competing companies into local telephone service") *affd in part and reversed in part, AT&T v. Iowa Utils, Bd.*, 119 S. Ct. 721 (1999).

rules for collocation at remote terminals. The Commission should also establish rules governing next generation network architectures that promote the competitive goals of the Act.

II. THE COMMISSION SHOULD EXERCISE ITS FULL AUTHORITY UNDER THE ACT TO ESTABLISH REGULATIONS THAT ENSURE NONDISCRIMINATORY COLLOCATION

Section 251(c)(6) of the Act requires ILECs to provide for "physical collocation of equipment necessary for interconnection or access to unbundled network elements" "on rates, terms, and conditions that are just, reasonable, and nondiscriminatory."[5] Congress could not have been more explicit in this mandate that CLECs are entitled to collocate in the same manner as ILECs. The language used by Congress is clear and unqualified in this respect. Every aspect governing the collocation arrangement - rates, terms and conditions - between the ILEC and CLEC must be just, reasonable and nondiscriminatory. As discussed below, this Commission has found the word "nondiscriminatory" to grant it full authority to adopt rules necessary to preclude all forms of preferential treatment of ILECs. Thus, pursuant to the mandate of section 251(c)(6) the Commission has authority, and the obligation, to require absolute competitive parity between ILECs and CLECs with respect to occupation and use of ILEC central offices and remote terminals. Anything less would result in discriminatory treatment of CLECs in direct violation of section 251(c)(6) of the Act.

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[5] 47 U.S.C. § 251(c)(6).

Congress' use of the words reasonable and nondiscriminatory in its section 251(c)(6) mandate grants the Commission broad authority to condemn every form of discriminatory practice. This statutory proscription against "undue" or "unreasonable" discrimination comprehends *every* form of unreasonable discrimination within the power of Congress to condemn.[6] It is said that the purpose of Congress in adopting such language was "to cut up by the roots *every* form of discrimination, favoritism and inequality."[7] Indeed, under Section 202(a) of the Communications Act of 1934, the courts have upheld the Commission's broad authority not *only* to define the scope of discrimination deemed unreasonable, the courts have *also* affirmed this Commission's authority fashion remedies, either retrospectively through injunction, or prospectively through the Commission's authority to prescribe just and reasonable terms and conditions of service.[8]

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[6] *See*, e.*g., Merchants Warehouse Co. v. United States*, 283 U.S. 501, 512 (501); *Louisville & Nashville R.R. Co. v. United States*, 282 U.S. 740, 749-750 (1931).

[7] *See, e.g., Louisville & Nashville R.R. Co. v. Mottley*, 219 U.S. 467, 478 (1911)(emphasis added).

[8] *See, e.g., National Association of Motor Bus Owners v. FCC*, 460 F.2d 561, 565 (D.C. Cir. 1974).

The FCC has broad authority to adopt collocation rules that prevent preferential treatment of ILECs.[9] As this Commission has recognized, the prohibition against discrimination that appears throughout section 251 is unqualified.[10] Such absolute restriction is necessary in an environment where one entity, the ILEC, owns and controls the facilities necessary to compete. There is an incentive "for the LEC to discriminate against its competitors by providing them with less favorable terms and conditions of interconnection than it provides itself."[11] That incentive warrants full enforcement of the strict prohibition on discrimination comprehended in the statutory language of Section 251. Accordingly, in interpreting the prohibition on discrimination under Section 251, the Commission stated that:

> We believe that the term 'nondiscriminatory,' *as used throughout section 251*, applies to the terms and conditions an incumbent LEC imposes on third parties as well as on itself. In any event, by providing interconnection to a competitor in a manner less efficient than an incumbent LEC provides itself, the incumbent LEC violates the duty to be "just" and "reasonable" under section 251(c)(2)(D).

Id. (emphasis added). This interpretation of nondiscriminatory applies equally to collocation.

In accordance with this comprehensive authority the Commission should establish rules that provide essentially that CLECs have the same rights to collocate in ILEC central offices and remote terminals- in terms of access, price, quantity and use of space - as enjoyed by ILECs. The statutory requirement allows no less. In subsequent sections of these comments, Commenters suggests specific

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9 *See Local Competition Order* at ¶ 218.

10 *Id*.

11 *Id*.

rule changes that will achieve this overall statutory mandate.

III. THE COMMISSION SHOULD REESTABLISH AND STRENGTHEN RULES GOVERNING COLLOCATION IN ILEC CENTRAL OFFICES

A. The Statute Permits Collocation of Telecommunications Equipment Including Advanced Equipment

Section 251(c)(6) requires ILECs to provide for "physical collocation of equipment necessary for interconnection or access to unbundled network elements" "on rates, terms, and conditions that are just, reasonable, and nondiscriminatory."[12] As an initial matter, the word "necessary" can be interpreted in an expansive manner as well as a restrictive manner. In fact, as demonstrated below, there is substantial legal precedent that an expansive interpretation is the right interpretation of the word necessary when used in a statute such as the Act. However, Commenters submit that there is more to this statute than the word "necessary." To properly interpret the breath of this statute, the statute should be read in its entirety and in light of Congress' objectives. Such a reading of the statute supports the requirement that ILECs allow collocation of a full range of equipment at central offices, including equipment with advanced features and functions.

1. The Commission Should Broadly Define "Necessary"

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[12] 47 U.S.C. § 251(c)(6).

Courts have already sanctioned and employed a definition of "necessary" that supports permitting collocation of a full range of equipment including equipment with advanced features and functions. In the context of state-mandated taking of private property, the term "necessary" has been defined broadly. For example, another federal agency, the Interstate Commerce Commission (ICC), found that the term "required" in a federal statute meant "useful or appropriate" and, therefore, warranted condemnation of a 55-mile segment of track in Vermont for the use of Amtrak.[13] The Court of Appeals set aside the condemnation, on the ground that a lesser action would have sufficed.[14] The Court of Appeals' interpretation limited the condemnation authority "to property that was necessary, in the sense of indispensable, to Amtrak's operations."[15] The Supreme Court reversed, according deference to the ICC's interpretation that "'required' can also mean 'useful or appropriate,'" concluding that "Amtrak can find that an acquisition is required when it is a useful and appropriate way to accomplish its goals."[16] Following the Supreme Court's decision, a federal district court in Massachusetts held that Amtrak's authority to condemn land "*necessary* for intercity rail passenger transportation" also applies whenever the condemnation is "*a useful and appropriate way* to accomplish [Amtrak's transportation] goals."[17] As in the Amtrak case, the Commission's

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[13] *National Railroad Passenger Corp. v. Boston and Maine Corp.*, 503 U.S. 407 (1992).

[14] *Boston and Maine Corp. v. I.C.C.*, 911 F.2d 743, 750 (D.C. Cir. 1990).

[15] *National Railroad Passenger Corp., supra*, 503 U.S. at 417.

[16] *Id.*, 503 U.S. at 418, 419.

[17] *National Railroad Passenger Corp. v. 4945 Square Feet of Land*, 1 F. Supp.2d 79, 82 (D.Mass. 1998) (emphasis added).

endorsement of collocation of a wide variety of equipment, even equipment with advanced functionality, is "a useful and appropriate way to accomplish [Congressional] goals."

Any party advocating that "necessary" means "indispensable," or a similar restrictive meaning should be rejected. First, Congress did not insert into the statute restrictive, qualifying language such as "only" and "indispensable." To the contrary, Congress diluted the meaning of necessary by requiring collocation "on rates, terms, and conditions that are just, reasonable, and nondiscriminatory."[18]

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[18] 47 U.S.C. § 251(c)(6).

2. "Interconnection" and "Access to UNEs" Should be Broadly Defined

The telecommunications infrastructure in the United States has changed dramatically over the past four years. This change has been driven by the continued developments and advancements in technology, which will never cease. Thus, interconnection and access to the telecommunications infrastructure will continue to change with time. The interconnection and access to UNE provision of the Act should be interpreted broadly to not only allow for this change, but to encourage change. In today's digital generation, packet-switches and equipment that interacts with or receives packetized data is integral to interconnection among analog and digital networks. The Commission should broadly define "interconnection" and "access to UNEs" to include equipment effective in communicating with the telecommunications infrastructure of today and tomorrow.

As the contemporary telecommunications market becomes increasingly characterized by packetized data traffic, there is no meaningful distinction between interconnection and switching functions, especially in equipment that is no more than data processing equipment that receives and processes data streams according to software resident in the equipment. Accordingly, equipment such as ATM switches and routers are themselves necessary for interconnection under the statutory standard whether they are viewed as integrated with other functions or not. It is worth noting that SBC's OCD device that it plans to employ in connection with its "Project Pronto" is essentially an ATM switch. It is necessary that CLECs deploy ATM devices in order to interconnect with these OCDs. Therefore, CLECs may collocate such devices.

The Commission should also define access to UNEs as encompassing any interaction with the features, functions, and capabilities of UNEs. The Act defines network elements as including their

"features, functions, and capabilities."[19] In order to access those functionalities, CLECs must employ equipment that it capable of interacting with those features, functions, and capabilities. Therefore, any such equipment meets the statutory necessary test because it enables CLECs to access those features, functions, and capabilities of the UNEs. As ILECs employ more advanced electronics in loops and central offices, the range of equipment that CLECs may collocate correspondingly increases. At the present time, ILECs are increasingly deploying data equipment and optical systems as part of loops and other UNEs. As described elsewhere in these comments, the Commission should designate a number of new UNEs concerning ILECs' deployment of next generation architectures. The Commission should determine that any equipment that interacts with any of the capabilities of these UNEs is necessary for access to UNEs.

The language specifically used by Congress in section 251(c)(6) and the express competitive and innovative advancement goals of the Act support an interpretation that the equipment to be collocated in central offices includes all equipment capable of interconnecting with other networks or utilizing UNEs. As noted above, the equipment necessary to interconnect or use UNEs will change as technology changes the telecommunications infrastructure.

B. Commercially Available Equipment that Enables Interconnection or Access to UNEs Falls within Section 251(c)(6).

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[19] 47 U.S.C. § 153(29).

With numerous products on the market that enable interconnection or access to UNEs, a CLEC's equipment may vary considerably, a common result in a competitive market with extensive innovation. It is clear that without such equipment, regardless of the "bells and whistles" attached, a CLEC cannot interconnect or access UNEs. Commenters submit that the marketplace should define the equipment that enables interconnection or access to UNEs. Absent reliance on the marketplace to define what equipment may be used for interconnection or access the UNEs, the Commission could potentially become involved in detailed examination and virtual design of telecommunications equipment. Further, allowing the marketplace to define what equipment enables interconnection or access to UNEs will ensure that ILECs are not able to use equipment evaluations and testing as another tool for delaying competition. Finally, allowing the market to define the equipment will guarantee that advanced technology is continually deployed in the telecommunications infrastructure resulting in more innovative choices for consumers.

Failure to allow the marketplace to define the equipment available for collocation would potentially force CLECs to operate antiquated equipment at less efficient levels and prevent CLECs from offering new innovative services, thereby, providing ILECs that can collocate any equipment with yet another momentous advantage in the market.

C. Multifunction Equipment Is Eligible For Central Office Collocation

The Telecommunications Act of 1996 was enacted in part "to accelerate rapidly private sector deployment of advanced telecommunications and information technologies and services to all

Americans."[20] With this purpose in mind, there is no reason to believe that Congress intended to block advanced equipment with the language "equipment necessary for interconnection." In fact, it is somewhat incongruous to think that Congress intended the technology available in 1996 to represent the type of equipment necessary for collocation, precluding collocation of subsequently-developed multi-functional technology. Consistent with the ordinary meaning of the words in the statute and the statutory purposes, ILECs must provide collocation of any equipment that contains the features and functionalities enabling interconnection, despite additional telecommunications functionalities that enable data routing and other functions, including switching.

[20] Sen. Rept. No. 104-230, 104th Cong. 1st Sess. (March 30, 1995) at pp. 1-2.

Collocation of multi functional equipment is also "necessary" because it would effectively thwart CLECs' ability to compete if they could not do so. ILECs can clearly collocate any type of equipment they choose. Thus, ILECs are always in a position to offer innovative, advanced services by virtue of their control over their network and the equipment that makes up their network. Not allowing collocation of multifunction equipment would prevent CLECs from competing with ILEC advanced service offerings by astronomically increasing CLEC costs of providing competitive services, especially in smaller and rural markets, because of the need to obtain separate space and communications links to backhaul traffic from the ILEC central office. This would also substantially delay CLECs' ability to enter markets. Restricting a CLECs ability to collocate multifunction equipment not only prevents CLECs from competing with the ILECs' advanced service offering, but violates section 251(c)(6)'s mandate that CLECs be provided collocation "on rates, terms, and conditions that are just and reasonable, and nondiscriminatory . . . ."[21]

At the same time, however, allowing collocation of multifunction telecommunications equipment would not increase the occupation of ILEC central offices at all, or only marginally so. In fact, with the increasing efficiency and compactness of telecommunications equipment, collocation of many types of equipment requires little more than a small refrigerator size space or less. Many CLECs have already built and paid for collocation space usually at exorbitant prices. Simply stated, therefore, it is reasonable to permit CLECs to collocate multifunction equipment because it would

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[21] *Id*.

greatly facilitate their ability to compete and would not have any significant impact on ILECs.

D. Cross-Connection Between Collocators in ILEC Central Offices is Vital to Providing Consumers Choice of Carriers in a Seamless Network

Realistically, consumers would not have true competitive choice if CLECs could not provide consumers with access to all other consumers. Thus, for competition to take hold, section 251(a) of the Act requires all carriers, ILECs and CLECs, to interconnect their networks. Under section 251(c)(6), it is an "'ordinary and fair meaning of [the statute's] terms,'"[22] to include interconnection with other CLECs' networks as well as the ILECs' network provided the other CLECs have interconnection points "at the premises of the local exchange carrier." As emphasized above, a narrow reading of the term "interconnection" would thwart Congress' ultimate goal for a competitive industry, which envisions seamless connectivity among carriers. Furthermore, such a narrow interpretation would violate section 251(c)(6)'s mandate that CLECs be provided collocation on nondiscriminatory terms. Failure to allow CLECs to cross connect while the ILEC interconnections with each CLECs at the central office would provide ILECs with a discriminatory advantage.

E. The Commission Should Reestablish Its Collocation Provisioning Standards.

The Commission should re-adopt the collocation requirements previously vacated by the Court of Appeals.[23] These collocation requirements serve to prevent ILEC abuse over central office space and to ensure parity of access to central offices in accordance with the nondiscriminatory requirement of section 251(c)(6). There is ample justification to reestablish these rules in response to the Court of Appeals ruling.

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22 *GTE Service Corp.*, *supra*, 205 F.3d at 424.

23 *Collocation Order*, ¶ 42.

The Commission should reinstate the requirement that CLECs be permitted "to collocate in any unused space in the incumbent LEC premises."[24] This requirement is intended to prevent the ILEC from unilaterally placing arbitrary restrictions that would prevent collocation of CLEC equipment while preserving the space for future use by the incumbent. According to ILEC claims in numerous states, space is exhausted in several central offices across the Nation. Of course, this is a subjective view point of the ILEC and, while CLECs have the right to walk through the premises, ILECs often time invent reasons why empty space is not available to competitors. For example, during a walk through, a CLEC discovered space appropriate for collocation. The ILEC had plastic containers in the space and refused to remove the containers. This unilateral ability of ILECs to reserve space with inefficient uses must be curbed. The ILEC should also be restricted from establishing unnecessary limitations that limit the available space and prevent collocation by CLECs. The Commission may clarify that the ILEC can place "just and reasonable" restrictions on the use of space for collocation; however, to ensure nondiscriminatory treatment, the ILEC should be required to demonstrate efficient, necessary use of space and/or certify that is will not make use of space that it has denied to a CLEC based on its own internal policy restrictions.

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[24] *Id.*

The Commission should also reinstate its prohibition on ILECs unilaterally imposing arbitrary or unreasonable requirements that CLECs construct a room, cage, or similar structure for its equipment, collocate equipment on a separate floor, or create a separate entrance to its collocation space.[25] The substantial financial burden imposed on CLECs by these requirements signify a barrier to competitive entry - a barrier not faced by the ILEC. Furthermore, there is no apparent reason for such restrictions except to inhibit CLECs from collocating. A separate entrance to collocation space is duplicative of an already existing structure and inefficient use of space. Requiring all CLECs to collocate on a separate floor provides an opportunity for ILECs to restrict availability of valuable space on other floors and restricts available space in the central office. In other words, if the ILEC is not using all the space on its floor, but requires CLECs to collocate on a separate floor, such space is wasted.[26] Requiring CLECs to construct separate entrances, leaving ILECs free to use existing entrances, increases costs for CLECs while immunizing ILECs from such costs. The Commission should require the ILEC to certify in writing that creating separate rooms, cages, or constructing separate entrances is necessary for purposes of some reasonable safety, engineering, security or some

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[25] ILECs frequently justify separate room/isolated space requirement based on "security" concerns. However, the cost of resolving security concerns should not be placed solely at the feet of the CLECs, but should also be shared by the incumbent LECs. Moreover, State commissions have found less restrictive ways to address the purported ILEC security concerns, such as security cameras, monitoring systems, or badges. *See* Massachusetts D.T.E. 98-57, Order on Investigation by Department on Own Motion (March 24, 2000).

[26] For instance, in New York, Bell Atlantic unilaterally imposed a requirement that CLECs place their equipment in a separate lineup at least 10 feet away from working BA-NY equipment. CLECs argued that this rule limits the amount of space available, increases costs and may force CLECs to collocate in a separate room. The NY PSC agreed and disallowed this practice. *See* Case 990C-0715, *New York Telephone Company Case* 1999 WL 1054136 at 2 (NYPSC).

other technical consideration *that cannot be achieved through a less restrictive alternative*. The ILEC should further certify in writing that collocation of its own equipment is subject to the same limitations and in no less a restrictive manner.

Finally, Commenters urge the Commission to prohibit ILECs from establishing intermediate points of interconnection in lieu of direct connection to the ILEC network facility. Section 251(c)(2)(B) requires ILECs to provide interconnection "at any technically feasible point within the carrier's network."[27] This requirement, by definition, precludes a requirement of indirect interconnection in circumstances where direct connection is feasible. Moreover, unless justified by technical, operational, safety, engineering or security considerations, such requirement places the CLEC at less than competitive parity with the incumbent LEC, thus violating the ILEC's obligation to offer interconnection at just and reasonable and nondiscriminatory terms and conditions. Accordingly, the Commission should prohibit ILECs from requiring *indirect* interconnection unless the ILEC certifies in writing that it cannot overcome the conditions that mandate such requirement.

F. Minimum Provisioning Intervals for Various Collocation Arrangements

The Commission should reduce the maximum provisioning interval for physical collocation arrangements to a number shorter than 90 days; and establish separate minimum installation intervals for other types of collocation. With increased experience on preparing collocation space and installing equipment, ILECs have passed certain learning curves and should be expected to operate with increased efficiency in these areas. Thus, when installing its own advanced equipment, ILECs benefit from the experience its gained from working with CLECs. Thus, to maintain nondiscriminatory treatment among all carriers and to avoid delays in market entry, it is appropriate at this time to revise the 90 day physical collocation interval and to establish new intervals for other types of collocation that have been approved by the Commission for some time. Commenters further

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[27] 47 U.S.C. § 251(c)(2)(B).

submit that for modifications or additions to existing collocations, even shorter collocation intervals should apply. Finally, a reduction in provisioning intervals for collocation is appropriate where the CLEC is willing to construct portions of the collocation itself.

Provisioning interval for upgrading existing collocation space to install equipment associated with advanced services, such as splitters and cabling, should require minimal time. Such collocation typically involves attaching equipment with a few bolts to existing structures and the attachment of pre-prepared cables. With minimal physical tasks involved and reduced planning and logistics, shorter provisioning intervals should be expected. Thus, for example, the Texas Commission has affirmed GTE's obligation to provide collocation upgrades within 30 calendar days, which time frame SWBT already has specified in its collocation tariff.[28] Less generous, but still shorter than the 90 day interval for full collocation, is the 45 business day interval adopted by the Pennsylvania Commission for splitter and cable collocation augments.[29]

Finally, Commenters urge the Commission to require ILECs to accept collocation applications

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[28] *See* Docket No. 22168, *Petition of Covad Communications Co. and Rhythms Links, Inc. Against Southwestern Bell Telephone Co. and GTE Southwest Inc, etc.*, Interim Award, at 25.

[29] *See* Dockets A-310696F0002, A-310698F0002, *Petition of Covad Communications Company and Arbitration Award Against Bell Atlantic-Pennsylvania, Inc., Implementing the Line Sharing Unbundled Network*, Opinion and Order, 23, 51 (August 17, 2000).

with alternative requests in the event one type of collocation is not available. SBC will only accept an application for one type of collocation at a time. If the collocation type is not available, SBC requires a second application to be filed. For example, if a CLEC submits an application for physical collocation, it cannot request virtual collocation as a default in the event the ILEC determines there is no space for physical collocation. This requires the CLEC to wait through the processing time for two or more collocation applications before the CLEC is notified what type of collocation is available in the specified central office. This is unnecessary and a clear attempt to delay CLEC collocation by the ILEC. Section 251(c)(6) specifically provides for an alternative form of collocation (virtual) in the event physical collocation is not available. A CLEC should have the option to request such a default without completing, resubmitting and waiting for processing of another application.

IV. COLLOCATION AT REMOTE TERMINALS

A0 CLECs Require Equal Access to Remote Terminals

ILECs must be required to provide CLECs the same access to remote terminals as CLECs have today to central offices. Without such access, CLECs will be unable to offer competitive, advanced services to the consumer markets being opened up by remote terminals. Thus, these consumers will be deprived of competitive options in advanced services.

Remote terminals are tantamount to central offices.[30] With the increased deployment of fiber

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[30] *See UNE Remand Order* at 218.

based DLC systems, remote terminals are becoming a major hub of consumer loops. The Commission has acknowledged the status of remote terminals as essential aggregation points for access to loops and other essential network facilities.[31]

The critical role of the remote terminal in reaching a greater number of consumers for the provision of advanced telecommunications services cannot be overstated. Traditional xDSL technology requires that the consumer reside within 18,000 feet of the Digital Subscriber Line Access Multiplexer ("DSLAM") to receive reliable xDSL service. This 18,000 foot requirement eliminated the option of xDSL service for numerous interested consumers. This is now changing. The placement of next generation DLC or IDLC equipment in forward-deployed remote terminals overcomes this operational roadblock by allowing carriers to get closer to the consumer (within th 18 foot requirement). This enables broadband gateways containing digital electronics to reach neighborhood across the Nation.

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[31] *Id.*

ILECs are reconfiguring networks and increasing their use of remote terminals in order to provide consumers outside the 18 foot scope of the central office with advanced services. For example, SBC is bringing advanced services to consumers with its Project Pronto initiative, which according to SBC is "to bring advanced broadband data services to nearly all customers, and to integrate its voice and data networks to more efficiently and effectively transport that traffic."[32] To accomplish this, SBC intends to "install fiber optics deeper into neighborhood networks and install or upgrade approximately 25,000 neighborhood broadband gateways containing next generation digital loop carriers. These neighborhood gateways will expand the reach of DSL service by taking the capabilities of the network closer than ever before to customers."[33]

Of course, SBC's Project Pronto is not possible without the use of remote terminals. In a recent public forum on *Competitive Access to Next-Generation Remote Terminals* held at the FCC on May 10, 2000, senior executives from three of the largest regional Bell Operating companies, together with representatives of major switch manufacturers and competitive local exchange companies all agreed in touting the advantages of next generation remote terminals in providing advanced services. Several of the ILEC representatives spoke at length concerning their *current*

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[32] SBC Communications, Inc., *Project Pronto: SBC's Network Vision and Strategy* (November 1999).

[33] *Id.* (emphasis added).

plans to deploy next generation DLC as an integral part of their independent plans to push fiber deeper into neighborhoods to offer DSL service. Notably, Mr. Masters of SBC expanded on the Company's previous boasts made on behalf of Project Pronto, stating that:

> we have a very large initiative going on to try to put a lot more remote terminals in our network. . . . . We said earlier we have about 35,000 remote terminals, and they were adding another roughly 13,000. *We're upgrading 7-10,000 of existing ones to provide a broadband service, next generation DSL, and actually a broadband capability to the network bay.*[34]

Mr. McNamara of Bell-South echoed this sentiment, stating that "*all* of our growth today is going on next generation products. We aren't deploying *any* old technology to DLC any more. It is all next generation products with copper feeder."[35]

If CLECs are not permitted equal access to remote terminals, consumers located outside the 18 foot reach of competitive DSL services will have not choice among advanced services providers. They will be left with one provider only, the ILEC.

B. ILECs Must Have An Absolute Obligation to Provide Sufficient Collocation Space at Remote Terminals

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[34] Tr. 12 (emphasis added).

[35] *Id.* at 14 (emphasis added).

Pursuant to the Act, ILECs are required to provide CLECs with nondiscriminatory collocation, access to UNEs and interconnection at any feasible point. Section 251(c)(6) of the Act does not limit to central offices the duty to "provide physical collocation of equipment necessary for interconnection or access to unbundled network elements." With ILECs reconfiguring their networks and pushing central office functions to the edge, collocation at the remote terminal becomes increasing "necessary" to achieve interconnection and meaningful access to UNEs. Without the ability to collocate DSLAMs, line cards and other equipment at remote terminals, CLECs cannot interconnection with ILEC DLC equipment and access the feeder subloop, thereby limiting xDSL service by CLECs to customers served by spare, home-run copper loops shorter than 18,000 feet. The result is a market segment monopolized by the ILEC with no competitive alternatives, a result surely envisioned by the ILECs. The ILEC's obligation to provide nondiscriminatory interconnection "that is at least equal in quality to that provided . . . to itself . . ." cannot be satisfied without CLEC access to remote terminals, nor can its obligation to provide access to UNEs on "just and reasonable" and "nondiscriminatory" terms and conditions be satisfied.[36]

The lack of Commission rules in this area has enable ILECs to abuse their control over remote terminals, thereby, effectively blocking CLEC access to numerous markets. Through reconfiguration of their networks, the ILECs have found a way to regain control and protect their monopoly over a large segment of the population. For example, when CLECs have sought to reserve space for collocation at remote terminals, ILECs denied access on the blatantly discriminatory pretext that such

[36] 47 U.S.C.§ 251(c)(3).

space is necessary to enable the ILEC to serve future demand. SBC has also sought to impose charges for Special Construction Arrangements, which basically recover additional charges for access to remote terminals that are already recovered under TELRIC rates. Similarly, in proceedings in Verizon's region, Verizon has taken the position that it need not allow data CLECs to engage in line sharing over DLC loops, contending that, by definition, line sharing can only be done over home-run copper. Verizon has rejected the "plug and play option" advocated by Covad – whereby CLECs collocate line cards in incumbent LEC DSLAMS – as somehow incompatible with the functionality of its own equipment, offering instead to permit adjacent collocation, where CLECs are left to obtain the necessary permits and easements and overcome the aesthetic objections of local homeowners to ubiquitously deployed remote terminal "farms." In short, ILECs are doing with remote terminals that which they are prohibited by Commission rules from doing with central offices.

C. Disclosure of Remote Terminal Information Should be Required.

The requirement to disclose space availability in central offices prior to application submission by a CLEC should be applied to remote terminals. It is necessary to know whether space is available in order to properly plan market entry and strategy. Without such information, CLECs will spend significant time, resources and money planning to enter a market only to learn that there is no space in the remote terminal or central office, which precludes market entry for many carriers.

As required for central office collocation, the ILEC should, within 10 calendar days of a request for space in a remote terminal, provide the CLEC with schematic drawings of the remote terminal and all adjacent space. To make certain that the information provided by ILECs is useful in determining the true nature of available space in the remote terminal, it is important to explicitly

require ILECs to include the following information: (1) the amount of collocation space available, and dimensions of any discrete blocks of space; (2) separate identification, through color coding or similar scheme, of the space occupied by the incumbent LEC, by type of equipment; (3) the number of other collocators and space they occupy; (4) any modifications or augments to the space since the last report; and (5) plans on the part of the incumbent to make any additional space available. In addition, the ILEC should be required to maintain a web site indicating those premises that have no room for collocation.

V. RAPID DEPLOYMENT OF NEXT GENERATION NETWORK ARCHITECTURES NECESSITATES THAT THE LOCAL COMPETITION RULES BE UPDATED

A. "Project Pronto" and Richardson, Texas Demonstrate the Dramatic Changes to Network Architectures and the Urgent Need to Update the Local Competition Rules

Rapid deployment of next generation network technologies has caused dramatic changes to the network. Such changes directly affect the ability of CLECs to interconnection and to provide all forms of telecommunications services to end users, including advanced services. The network elements required to properly interconnect and provide service change when the ILEC changes its infrastructure. Thus, what sufficed to interconnection and provide service over the old network, no longer suits the purpose. As demonstrated below, changes in ILEC networks has caused an urgent need for revised Commission rules that will assure the CLECs are able to compete in the local telecommunications market.

As AT&T has correctly observed, "ILECs will extend their monopoly power over local

telephony to advanced services by operating and controlling next-generation networks in a manner that ensures that only the ILECs (and their data affiliates) will be able to recognize the full benefits of the architecture."[37] SBC provide a perfect example of such behavior. SBC has developed and deployed Project Pronto in a manner that enables SBC to determine the pace and scope of competition in the provision of advanced services. In Richardson, Texas, SBC has virtually foreclosed DSL competition by unilaterally removing copper loops. To ensure that the full benefits of new architecture and technology deployment extend to customers of CLECs and ILECs alike, the Commission should revisit its local competition rules to assure that advanced services electronics and capabilities are included the definition of UNEs, establish new UNEs, and require complete disclosure of ILEC network capabilities.

B. The Commission Should Redefine Loop and Transport UNEs to Include

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[37] *In the Matters of Deployment of Wireline Services Offering Advanced Telecommunications Capability; Implementation of the Local Competition Provisions of the Telecommunications Act of 1996; Application for Consent to the Transfer of Control of Licenses and Section 214 Authorizations from Ameritech Corporation, Transferor to SBC Communications, Inc., Transferee; Common Carrier Bureau and Office of Technology Announce Public Forum on Competitive Access to Next-Generation Remote Terminals*, CC Docket Nos. 98-147, 96-98, 98-141, and NSD-L-00-48, Reply Comments of AT&T Corp. at p. 12 (July 10, 2000)("*AT&T ALTS Petition Reply Comments*").

Advanced Services Electronics

A network element is defined under the Act as a "facility or equipment used in the provision of a telecommunication service" which includes the "features, functions, and capabilities that are provided by means of such facility."[38] The loop was initially defined by the Commission as "a transmission facility between a distribution frame, or its equivalent, in an incumbent LEC central office, and the network interface device at the customer premises."[39] In its *UNE Remand Order*, the Commission modified its definition of the loop network element to include "all features, functions and capabilities of the transmission facilities, including dark fiber and attached electronics (except those used for the provision of advanced services, such as DSLAMs) owned by the ILEC, between an ILEC's central office and the loop demarcation at the customer premises."[40] The Commission has sought to ensure that its definition of the loop will apply to "new as well as current technologies."[41]

By its own actions, SBC has admitted that the new network infrastructure presents unexpected needs for carriers to provide service. SBC had to request a waiver of the SBC/Ameritech merger conditions in order to enable SBC/Ameritech ILECs to own combinations of POTS/ADSL

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[38] 47 U.S.C. § 153(29).

[39] *In the Matter of the Implementation of the Local Competition Provisions in the Telecommunications Act of 1996,* CC Docket No. 96-98, FCC 96-325, First Report and Order, 11 FCC Rcd. at 15499 at ¶ 380 (1996)("*Local Competition Order*").

[40] *In the Matter of Implementation of the Local Competition Provisions of the Telecommunications Act of 1996,* CC Docket No. 96-98, FCC 99-238, ¶ 167 (1999)("*UNE Remand Order*").

[41] *Id.*

plugs/cards located in remote terminals as well as optical concentration devices ("OCDs") located in central offices. SBC's actions demonstrate the need to include line cards and OCDs in the definition of the loop UNE.[42]

1. Line Cards

[42] *Applications for Consent to Transfer Control of Licenses and Section 214 Authorizations from Ameritech Corporation, Transferor, to SBC Communications, Inc., Transferee,* CC Docket No. 98-141, Request for Interpretation, Waiver or Suspension of Merger Conditions Affecting the Ownership of Plugs/Cards and OCDs (Feb. 15, 2000).

As network infrastructure improves, more elements that were once considered advanced become integrated functionalities necessary to provide current day services. Much of today's equipment provides functionality that cannot be characterized as advanced or non-advanced service elements. Combination cards/plugs are integrated, multi-functional equipment that play a vital role in the transmission of non-advanced, as well as advanced, services. SBC has noted that this equipment is "an integrated piece of technology having both POTS and DSLAM capabilities as well as the 'splitter' functionality."[43] Combination cards/plugs fall within the same consideration as integrated digital loop carrier whereby the Commission reasoned that:

> [S]ome loops, such as integrated digital loop carrier (IDLC), are equipped with multiplexing devices, without which they cannot be used to provide service to end users. Because excluding such equipment from the definition of the loop would limit the functionality of the loop, we include the attached electronics (with the exception of DSLAMs) within the loop definition.[44]

Thus, it is appropriate for the Commission to include combination cards/plug within the loop definition. To characterize such equipment otherwise would be to provide ILECs an advantage over loop advancements.

Is important to revisit the definition of the loop to ensure that the loop continues to reflect

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[43] *SBC Letter* at p. 4.

[44] *UNE Remand Order* at ¶ 175.

advancements in technology and industry changes. ILECs should not be the only carriers able to take advantage of modern equipment with multi-functional abilities to provide both advanced and non-advanced services. Commenters urge the Commission to include combination card/plugs within the definition of the loop. Failure to include such equipment within the definition of a loop would limit the functionality of the loop thereby curbing the breath of services CLECs could provide in competition with the ILEC.

2. OCDs

OCDs, which are essentially ATM switches, separate each CLEC's ATM packetized bitstream from the common ATM packetized bitstream coming from the remote terminals, and hand off the appropriate packetized bitstream to each CLEC and ILEC advanced services affiliate.[45] Under SBC's proposed network configuration in Project Pronto, the ATM switches are "the only means by which the ADSL-based traffic of multiple CLECs can be aggregated and disaggregated."[46] Thus, the OCD will be the only feasible point at which CLECs can get access to the ATM's bit streams coming from their customers.[47] Therefore, the Commission should define the loop UNE as including OCDs

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[45] CC Docket 98-141, *Ex Parte* Letter from DSL Access Telecommunications Alliance to Carol Mattey at p. 4 (April 11, 2000)("*DATA Letter*").

[46] *Id.* The placement of the OCDs in the central office is an indication of SBC's failure to consider more economical alternatives such as allowing CLECs to access the bitstream at the DLC which would preclude the need for a central-office based ATM switch, including the need for a multiport DLC at the CO, and allow for the deployment of fewer ATM switches. *Id.* This lack of implementing a more cost-effective arrangement in the architecture will surely lead to higher proposed cost-recovery from SBC for use of this functionality. *Id.*

[47] *Id.*

where such devices are deployed. This will enable CLECs to access the OCD functionality as part of the loop UNE.

C. CLECS Must Be Permitted to Deploy Their Own Line Cards

The plug/cards in the Project Pronto system are multi-functional, *i.e.*, they provide DSL functionality, DSLAM functionality, and splitter functionality.[48] SBC describes the combination card/plug as "an integrated piece of technology having both POTS and DSLAM capabilities as well as the "splitter" functionality."[49] These cards are vital because SBC has indicated that collocation space at its remote terminals is scarce and will likely prohibit the collocation of DSLAMs within most remote terminals.[50] Thus, lack of collocation space at remote terminals will limit the ability of CLECs to collocate their own stand-alone DSLAMs at the remote terminals.[51] These plug-in cards provide

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[48] *Petition of Covad Communications Company for an Arbitration Award Against Bell Atlantic Pennsylvania, Inc., Implementing the Line Sharing Unbundled Network Element; Petition of Rhythms Links, Inc. for an Expedited Arbitration Award Implementing Line Sharing*, PA PUC Docket Nos. A-310696F0002 and A-310698F0002, Recommended Decision at p. 36 (June 28, 2000)("*PA ALJ Ruling*").

[49] CC Docket No. 98-141, Letter from Paul K. Mancini, SBC Vice President and Assistant General Counsel to Lawrence Strickling, Common Carrier Bureau at p. 4 (February 15, 2000)("*SBC Letter*").

[50] *In the Matter of SBC Communications, Inc., et al., for Provision of In-Region InterLATA Services in Texas*, CC Docket No. 00-65, Supplemental Comments of AT&T Corp. at p. 24 (April 26, 2000); *Response to SBC's Requests for Interpretation, Waiver or Suspension of Merger Conditions Affecting the Ownership of Plugs/Cards and OCDs*, CC Docket 98-141, *Ex Parte* Letter from DSL Access Telecommunications Alliance to Carol Mattey at p. 3 (April 11, 2000)("*DATA Letter*").

[51] CC Docket 98-141, Comments of Alcatel USA at p. 4 (March 2, 2000); *SBC Letter* at p. 2.

a way around this problem. The line cards provide an "efficient, convenient and less capital intensive means" for the CLEC to access the subloop.[52]

[52] *SBC Letter* at p. 3.

The problem is that the particular line cards utilized by SBC, and made by Alcatel USA, limit the types of xDSL a carrier may provide. For instance, the line cards would not support SDSL service.[53] For CLECs desiring to provide other xDSL services, other than those Alcatel's equipment supports, Alcatel suggests that these carriers deploy their own DSLAMs.[54] This is not a viable option for CLECs, however, given the lack of collocation space in many SBC remote terminals, and the fact that the level of concentration present at a particular remote terminal may not justify the cost of collocation.[55] One solution to this problem would be to allow CLECs to provide their own line cards tailored to the particular class of service they seek to offer and to have SBC install said line cards. SBC has rejected this option. SBC has argued that it is under no legal obligation to allow CLECs to reconfigure their equipment and it also argues that this option is technically infeasible.[56] Thus, CLECs are limited in the provision of their xDSL services to the type of service that is supported by

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[53] CC Docket 98-141, Reply Comments of Alcatel USA at p. 2 (March 10, 2000)("*Alcatel Reply Comments*").

[54] *Id.*

[55] *Petitions of Covad Communications Company and Rhythms Links, Inc. for Arbitration Pursuant to Section 252(b) of the Telecommunications Act of 1996 to Establish an Amendment for Line Sharing to the Interconnection Agreement with Illinois Bell Telephone Company d/b/a Ameritech Illinois, and for an Expedited Arbitration on Certain Core Issues*, Illinois Commerce Commission Docket Nos. 00-0312 and 00-0313, Arbitration Decision at p. 29 (August 17, 2000)("*Illinois Line Sharing Order*").

[56] CC Docket 98-141, Reply Comments of SBC Communications, Inc. In Support of a Determination that SBC Incumbent LECs May Own Combination Plug/Cards and Optical Concentration Devices at p. 15 (March 10, 2000)("*SBC Reply Comments*"). Ironically, one of the initial proposals SBC considered making to the Commission was to allow CLECs to own their cards and SBC would install the cards. *SBC Letter* at p. 3.

the ILEC's line cards. Equally troubling is SBC's position that at any time it may transfer the line cards to its Advanced Service affiliate, and that "the obligations that would travel to the affiliate with such equipment would be evaluated on a case-by-case basis."[57]

In order to address these issues, CLECs must be permitted to provision cards, both at remote terminals and in the central office, that would support the types of services they wish to offer. The Illinois Commerce Commission recently required:

> Ameritech to install plug-in cards which support all DSL-based services requested by the CLECs. If Covad's or Rhythms' business plan calls for a particular DSL service that requires a plug-in card that Ameritech does not provide itself, the burden of proof will lie with

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[57] *SBC Reply Comments*, p. 8. Also troubling is SBC's apparent view that it can "fund its affiliate such that the affiliate, itself, could construct new remote terminals and install DSLAM equipment without subjecting the affiliate or the incumbent to the conditions proposed by the DSL CLECs or even the unbundling requirements of the Act." *Response to SBC's Requests for Interpretation, Waiver or Suspension of Merger Conditions Affecting the Ownership of Plugs/Cards and OCDs*, CC Docket 98-141, *Ex Parte* Letter from NorthPoint Communications, Covad Communications, and Rhythms NetConnections to Carol Mattey at p. 3 (May 31, 2000)("*NorthPoint Letter*").

Ameritech to prove that the plug-in card is incompatible with Project Pronto technology.[58]

This Commission should go a step further and permit CLECs to provision their own line cards in order to permit CLECs to access the full functionality and capability of the loops they purchase.

D. The Commission Should Designate New UNEs.

1. DWDM Wavelengths

[58] *Id.*

Dense wave division multiplexing ("DWDM") technology, multiplies the capacity of an optical fiber by simultaneously operating at more than one wavelength, thereby allowing multiple information streams to be transmitted simultaneously over the fiber.[59] This is an expensive option, but it gives a carrier growing capacity and intelligent provisioning of bandwidth, and is perhaps the best long-term strategy for promoting capacity in a network.[60] Verizon is using this technology in its large metropolitan areas and such technology may help promote its fiber-to-the-curb deployments.[61]

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[59] *In the Matters of Deployment of Wireline Services Offering Advanced Telecommunications Capability and Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket Nos. 98-147, 96-98, Order on Reconsideration and Second Further Notice of Proposed Rulemaking in CC Docket No. 98-147, and Fifth Further Notice of Proposed Rulemaking in CC Docket No. 96-98, FCC 00-297 at ¶ 120, n. 253 (August 10, 2000)("*Collocation Order and NPRM*").

[60] Vincent Ryan, *Life on the Edge*, Telephony, May 15, 2000.("*Ryan Article*").

[61] *Id.*

The effect of such technology on the loop could be revolutionary. The technology will allow network carriers "to sell or lease the individual streams of light in fiber-optic networks that transport voice, video, or image traffic."[62] Customers, "such as ISPs, will be able to purchase only the network bandwidth they want, when they want it."[63] It will provide carriers with new revenue streams and allow companies to "boost sales by packaging wavelengths with Internet services and lift efficiency by leasing or trading network bandwidth as needed."[64] As one analyst notes:

> [O]ptical wavelengths are the building blocks of the next-generation service provider networks. We anticipate that optical wavelengths will be the unit of commerce for all service provider networks.[65]

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[62] *Nortel Shows Off Fiber Breakthrough*, Reuters, August 29, 2000. ("*Nortel Article*") <<http://www.techweb.com//wire/story/reuters/REU20000829S0002>>

[63] *Id.*

[64] *Id.*

[65] *Id. quoting* Ron Steele, Chief Technology Officer of NEON Systems, Inc.

The Commission should require ILECs to offer optical wavelengths as separate UNEs. In line sharing, the Commission already has already take this approach in unbundling the electrical high frequency portion of copper loops. Just as the frequency of a loop is part of its "capability,"[66] so to is the wavelength. Carriers should be allowed to access unbundled loop functionalities such as wavelength, separate from other loop functions, or to access, at their option, the entire unbundled loop facility.[67] In this way, a carrier who only desired a particular wavelength could purchase that particular wavelength. If a carrier wanted to access all wavelengths of the loop, it could purchase the entire loop and have exclusive use of the facility. The Commission could utilize a similar approach in regard to the DWDM electronics that it uses in regard to line splitters, *i.e.*, allowing the ILEC to install and maintain the electronics unless such control is inhibiting the CLEC's provisioning of services it seeks to provide.[68]

2. Constant Bit Rate Class of Service

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66 *Line Sharing Order* at ¶ 17.

67 *Id.* at ¶ 18.

68 *Line Sharing Order* at ¶¶ 76-79.

Constant Bit Rate ("CBR") is a data service where the bits are conveyed regularly in time and at a constant rate, *i.e.*, "following a timing source or clock just as members of a marching band follow the beat of the drummer."[69] CBR technology could be the basis for current high-speed access solutions because it allows carriers to provide a full array of services.[70] This service is especially important in regard to sending uncompressed voice and video traffic because they are sensitive to variable delay, thus, they have to be transported without any interruptions in the flow of data.[71] As data transmission becomes more multimedia, *i.e.*, voice over ATM or IP and videoconferencing, quality of service ("QoS") issues arise.[72] These media are extremely bandwidth and delay sensitive, and unless packets are capable of being delivered in a real-time, orderly and timely manner, the quality of service is greatly affected.[73] Electronics that provide for CBR QoS address these problems subject to issues of spectral incompatibility and interference that may lead to service degradation problems.[74]

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[69] Newton's Telecom Dictionary 210 (16th Ed. 2000).

[70] Larry Hurtado, *Switching and Transmission*, Telephony (September 13, 1999)("*Hurtado Article*").

[71] *Id.*

[72] *Id.*

[73] *Id.*

[74] *Hurtado Article*, *supra* at n70. Solutions are already being developed to solve the spectrum compatibility problems associated with CBR service, and, thus, allow carriers to reap the full advantage of such service. Next-generation technologies are being developed that will "employ burst-mode transmissions that allow it to 'listen' to line characteristics and manage around potential interfering services, making it compatible with POTS, T-1, ISDN/IDSL DSL, high bit-rate DSL, symmetrical DSL, ADSL, and G.lite services."

In connection with Project Pronto, CLECs have requested that SBC provide CBR class of service because it would provide a guaranteed bandwidth without queuing delays or discards.[75] SBC's initial position was that it could only provide unspecified bit rate ("UBR") service. UBR service will not permit CLECs to provide the full range of DSL services that they are currently providing and would also preclude future DSL services such as SDSL and G.shDSL.[76] SBC eventually agreed to provide such service. CBR service would thus avoid the technical limitations imposed by an ILEC's choice of a particular technology that could otherwise limit CLECs to a particular service, such as SBC's initial proposal to limit CLECs to providing ADSL over its NGDLC architecture. Accordingly, the Commission should designate CBR as a UNE.

3. The Broadband UNE

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[75] CC Docket 98-141, Letter from Patrick J. Donovan, Counsel for @Link Networks, Inc., to Carol Mattey, Deputy Director, Common Carrier Bureau, at p. 1 (June 30, 2000)("*@Link Letter I*").

[76] *Id.* For instance, UBR would not be conducive to providing voice or video over DSL.

The Commission should establish a fiber loop UNE product that would provide a CLEC use of an integrated loop facility. This product offering should be an extension of the latest iteration by SBC of its Broadband Service Offering.[77] In that offering, SBC offers access to a:

> combined network arrangement consisting of: copper facilities from the NGDLC device deployed in remote terminal sites (includes CEVs, huts, and cabinets) to the end user location; a permanent virtual circuit that consists of ATM data transported over a common OC-3c fiber facility from the NGDLC in the remote terminal terminating on the central fiber distribution frame and delivered to a leased affiliated or unaffiliated telecommunications carrier port on the SBC/Ameritech incumbent LEC's OCD in the serving wire center; and a port on the SBC incumbent LEC's OCD with associated cross-connects to extend the port to a point of affiliated or unaffiliated telecommunication carrier virtual or physical collocation.[78]

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[77] CC Docket No. 98-141, Letter from Priscilla Hill-Ardoin, Senior Vice President SBC Telecommunications, Inc. to Magalie R. Salas, Secretary of the FCC, SBC Voluntary Commitments at page 2 (August 2, 2000)("*SBC Commitments Letter*").

[78] *Id.*

This product offering should be deemed to be a UNE offered in accord with Sections 251 and 252 of the Act, and particularly that such product offering be offered at forward-looking costs.[79] This product offering should be updated and extended in light of the issues raised above in regard to particular components of the NGDLC architecture and new technologies. In addition, the product offering should be allowed to evolve and adapt to reflect different NGDLC architectures and new product developments. The product offering should provide for deployment of equipment that gives CLEC full access to the existing features and functionality of the facility as well as future features and functionality.

E. ILECs Should Be Required to Disclose Fiber Deployment Plans and the Full Technical Capabilities Next Generation Network Architectures

In connection with UNE offerings, the Commission has determined that ILECs must include the full functions and capabilities of the network elements. In reality, CLECs are handicapped in their ability to request advanced capabilities of next generation network architectures because ILECs and their vendors have not fully disclosed the capabilities of the equipment they plan to deploy. Commenters urge the Commission to require ILECs and vendors to disclose such information in enough detail to enable proper planning and implementation by CLECs.

Current network disclosure rules are inadequate for revealing the capabilities inherent in

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[79] As this Commission has noted, it is not enough to implement pro-competitive solutions such as line sharing without more; such solutions will not promote competition unless they are "priced in a way that permits competitive LECs to enjoy the same economies of scale and scope as the incumbent LECs." *Line Sharing Order*, p. 63. The same would hold for the Fiber UNE, *i.e.*, unless the pricing for the UNE reflects the economies of scale and scope the ILECs derive from their new-generation architecture, competition will not take root.

advanced network equipment because those rules only require ILECs to disclose network changes that could affect interoperability.[80] ILECs and vendors should be required to disclose details sufficient to place CLECs in the same knowledgeable position as ILECs. To the extent vendor proprietary information is involved, the Commission may require that ILECs disclose this information subject to appropriate nondisclosure agreements.

VI. COPPER LOOPS MUST BE MAINTAINED

The Commission should act to ensure that unbundled copper facilities remain available to CLECs. ILEC plans to deploy fiber in ways that remove copper loops will put an end to CLEC DSL innovation. Copper loop facilities are currently the pathway for public access to advanced services. Market innovation has made this possible. The Commission should ensure that such useful facilities remain in existence. Without Commission intervention, the availability of advanced services will be threatened by various ILEC plans that will result in a decrease or elimination of competitive access to copper facilities in numerous markets throughout the Nation.

There is no legitimate reason for ILECs to retire copper loops. The preservation of competitive access to copper would not impinge upon the ILECs' ability to modernize and expand their network infrastructures or their ability to compete and innovate in the advanced services market. On the contrary, in many cases access could be assured if the ILECs were simply required to improve

[80] See 47 C.F.R. § 68.110(b); 47 C.F.R. Sec. 64.702(d)(2); 47 C.F.R. §§ 51.325 - 51.335.

copper shortages by agreeing to "swap" loops by moving an existing service to fiber in order to free copper facilities. The Commenters urge that all ILECs be required to offer swapping whenever technically feasible.

The Commission is well aware that copper is required to provision DSL, but more is at stake here than the success of DSL. Preservation of the copper facilities upon which competition today is founded is crucial to the success of individual competitors, but, more importantly, to the vibrancy of competition itself. In this nascent period in the development of a competitive market for advanced services, the Commission should guard against developments that would have the effect of removing existing, useful infrastructure. Therefore, the Commission should require ILECs to offer copper swapping and to maintain copper facilities that bypass fiber connections to a central office.

VII. A NATIONAL SPACE RESERVATION POLICY SHOULD BE ADOPTED FOR BOTH CENTRAL OFFICE AND REMOTE TERMINAL COLLOCATION

In the *Collocation Reconsideration Order and NPRM*, the Commission recognized that unchecked ILEC space reservation can limit the amount of available collocation space and inhibit the timely deployment of competitive services, particularly advanced services. The Commission urged state commissions to adopt space reservation policies. At the same time, the Commission invited comment on whether it should adopt national standards governing the periods for which incumbent LECs and collocating carriers can reserve space for future use.

Commenters urge the Commission to adopt a national standard. Although, as noted by the Commission, some state commissions have implemented space reservation policies, many have not. In states where space reservation policies have not been implemented, incumbents may be able to thwart competition by reserving space indefinitely. A national standard needs to be established such

that disparities in the amount of time ILECs may restrict the availability of collocation space will not lead to inconsistent deployment of competitive advanced services throughout the U.S. The determination of how long an ILEC should be allowed to reserve space is not one that requires a state-specific or central office-specific determination. Rather, in determining what is an appropriate time for space reservation, the Commission must determine what is a reasonable time period that balances the need of incumbents to plan their networks, with that of the CLECs to collocate their equipment and plan their networks.

As with most of the other local competition rules, the Commission should adopt a national standard that can be augmented and applied by the individual states. There is simply no basis for the excessive time periods some incumbents seek to reserve space. As the Commission well knows, the pace of technological change is extraordinarily rapid and accelerating space reservations of 10-20 years simply make no sense in light of the trend in new and, particularly smaller, equipment. The fact that ILECs are continuing to insist on such excessive space reservation time frames demonstrates that ILECs are not basing these policies on the realities of the equipment market and reasonable facilities planning, but on their desire to leverage their control of available collocation space and discriminate against CLECs. The Commission should implement a national policy that will limit these space reservations by incumbents and CLECs alike to a period of no more than one year.

In addition, the Commission needs to encourage incumbents to utilize configurations and equipment that will enhance available space and allow for more carriers to be able to collocate. Policies should be implemented that will place on ILECs an affirmative obligation to ensure space is available both in the central office and remote terminals.

VIII. CONCLUSION

CTSI and Pontio urge the Commission to reestablish and strengthen the collocation rules and to update the local competition rules in light of deployment of next generation network architecture.

Respectfully submitted

/s/

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